

February 19, 1963

Dr. Heinz Berendes  
National Institute of Neurological Diseases and Blindness  
Bethesda 14, Maryland

Dear Dr. Berendes:

This letter follows our telephone conversation this morning. The question of an effect of season of birth on intellectual and other performance has been mooted for many years. Most studies have failed to take account of cultural variables affecting the seasonal distribution of births as a factor that must be considered together with the possible physiological impact of birth season on the development of the fetus and child. The matter is of sufficient importance as to warrant a careful reinvestigation of any available sources of data, and the current survey on births with which you are concerned should be a valuable source for this purpose. The U. S. National vital statistics already indicate many provocative interactions between the region of origin, maternal age, color and the season distribution of births. However, there has been little useful information, so far as I know, on the variation within a given climatic region in accordance with the cultural background of the family. The most powerful technique for eliminating this variable would be intrafamily comparison, as for example, Fraser Roberts (British Medical Journal, 1944, March 4, "Intelligence and Season of Conception") has attempted. However, the scope of samples on which such studies can be conducted is vanishingly small, and in any case such studies should be conducted against some background of information on the stratification of seasonality.

I would therefore like to request that the following be made available from your file: distribution of birthdates as against the state of origin, and the father's occupation.

Another implication of cultural stratification of birth season is an expected residual correlation between the birth dates of spouses and also between parents and offspring. In fact, this technique may be the most valuable in the long run, as it is entirely objective and does not require any a priori conceptual definition of cultural stratum and it uses an objective and inherently generally available datum, merely the birth dates of the members of the kindred. A rather larger sample may be needed for a meaningful search for correlation of this kind; however, if the requisite data can be inexpensively summarized from your file, this would constitute a valuable pilot study to help in planning a more comprehensive analysis from other sources of vital statistics.

Berendes

We have an excellent computer center on the Stanford campus, and the processing of any machinable data set should present no special problems. In fact, if we have to consider the possibility of a statistical analysis involving three or more variables, it may be most economical to acquire a magnetic tape copy of the file covering relevant items for statistical processing here. On the other hand, it would of course be even more economical if this question can be run as a sub-program on other concurrent sorts that you may be operating at the same time.

I suggest that this letter be regarded as laying the groundwork for approval for this investigation and that we iron out the details by telephone after I have had a chance to study the sample data layouts that you indicated over the telephone.

I am most grateful to you for your indicated cooperation and look forward to hearing further from you.

Sincerely yours,

Joshua Lederberg  
Professor of Genetics